|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | 1863. | 1883. | | | | | |
|  | Thousands of Metric Tons @@1 produced. | Thousands of Metric Tons  produced. | Value in thousands of Pounds  at the Mine. | Persons employed. | | | Number of pro­ductive Mines. |
| Men. | 1 women. ∣ | Children. |
| Iron ore | 223  270  40  246  169  481 | 4,526  280  25  23  2,455  23  54  20@@2  1,044 | 506∙l  l,405∙2  157∙5  88 ∙3 l,094∙5  209·1  56∙4  17·4  463∙6 | 12,157  14,874  3,578  539  9,716  2,991  1,572  371  7,235 | 472  110  72  2  684  1  111  94  680 | 2,550  2,538  192  14  1,265  309  297  108  1,365 | 766  871  92  16  38  12  97  53  465 |
| Lead ore |
| Argentiferous lead ore  Silver ore |
| Copper ore  Mercury |
| Zinc.... |
| Common salt .... Coal |

Of the minerals mentioned in the preceding table it will be seen that iron and copper ores are those which show the greatest advance as compared with 1863. The production of these two ores advanced with rapid strides during the ten years 1874-1883. In the former year the production of both stood at about 500,000 tons. The iron ore is chiefly obtained in Vizcaya and Murcia, the former yielding by far the greatest quantity (in 1883 four-fifths of the total production of Spain), but the latter yielding the best quality (average value of Murcian iron in 1883, 5 pesetas=4s. per ton at the mine, as against 2·25 pesetas, or 1s. 91/2d., the average for the Vizcayan ore). All except a small fraction of the copper ore is obtained from the province of Huelva, in which lie the well-known mines of Rio Tinto. The lead ore is obtained chiefly in Murcia and Jaen. The famous mines of Linares belong to the latter province. Argentiferous lead is chiefly produced in Almeria, which also produces most of the silver ore of other kinds except argentiferous copper ore, which is entirely obtained from Ciudad Real. The still more celebrated cinnabar (mercury) mines of Almaden, the richest in the world till the discovery of the Californian mines of New Almaden, belong to Ciudad Real, and this province, together with that of Oviedo, furnishes the whole of the Spanish production of this mineral. Spanish salt is partly marine, partly derived from brine-springs and partly from rock-salt, of which last there is an entire mountain at Cardona in Barcelona. Coal is chiefly obtained in Oviedo, Palencia, and Cordova. The production is quite insignificant compared with the extent of the coal-bearing beds, which are estimated to cover an area of about 3500 square miles, of which nearly a third belongs to Oviedo, between one- eighth and one-seventh to Burgos and Soria, and about one-tenth to Teruel and Cordova. Among the less important Spanish minerals are manganese (chiefly in Ciudad Real), antimony, gold, cobalt, sodic sulphate, sulphate of barium (barytes), phosphorite (a valu­able manure, a variety of apatite found in Caceres), alum, sulphur, kaolin, lignite, asphalt, besides a variety of building and orna­mental stones.

The total number of mines (including springs for the production of mineral waters) in operation in Spain in 1883 was 2620, and the total number of labourers employed in them in that year was 57,626. The working of the mines is carried on under state supervision. For this purpose the whole kingdom, including the Balearic and Canary Islands, is divided into three sections, and each of these into four districts. Each section is under the charge of an inspector-general of the first class, and each of the districts under an inspector of the second class. By the law of July 6, 1859, a large number of important mines, including all the salt-works and rock-salt mines, were reserved as state property, but financial necessities have compelled the Government to sur­render one mine after another, so that at present the state possesses only the cinnabar mines and some salt-works. Many of the mines have been granted to foreign (principally English) companies.

Of the metallic ores produced in Spain, those of lead and mercury are the only ones which are chiefly reduced in the country. Though the working of iron is an industry of old standing in Spain, and a primitive kind of forge takes its name from Catalonia (see Iron), the total production of iron, refined and unrefined, in Spain in 1883 was only 200,000 tons, and by far the greater part of the Spanish ore is exported, as will be seen by comparing Tables V. and VI. The production of iron in Spain is, however, rapidly and steadily increasing, the total amount in the first year of the decade ending in 1883 having been less than 60,000 tons. During the same decade the amount of copper produced in the kingdom increased from about 5000 to 32,000 tons. The amount of steel produced in the kingdom is quite insignificant (little more than 400 tons in 1883). The following table (VI.) gives particulars regarding the export of the chief mineral products of Spain in 1883 :—

|  |  |  |  |
| --- | --- | --- | --- |
| Minerals. | To United Kingdom. | To France. | Total export to all Countries. |
|  | Metric Tons. | Metric Tons. | Metric Tons. |
| Iron ore | 2,895,000  2,400 | 511,000  2,000 | 4,226,000@@3  13,000 |
| Argentiferous galena |
| Lead ore  Copper ore  Zinc ores— | 555,000 | 1,400 | 2,500  565,000 |
| Calamine .. |  | 20,000 | 30,000@@4  15,0004 |
| Blende |  |
| Antimony ore  Manganese | 70  3,300  1,000 |  | 70  4,500  56,000@@s  30,000 |
| Phosphorite |  |
| Iron | 13.000 |
| Argentiferous lead | 31,000 | 20,000 | 51,000 |
| Non-argentiferous lead (unwrought) | 51.000 | 25,000 | 77,000 |
|  | Oz. | Oz. | Oz. |
| Gold | 243 | 522  549,090  Lbs. | 765 |
| Silver | 190,595  Lbs. | 739,686  Lbs. |
|  |
| Mercury | 910,037  7,440 | 23,924  68,708 | 1,139,932@@6  186,510  546,425@@7 |
| Wrought-iron and steel |
| Lead in tubes and other forms |
| Copper, brass, and bronze in plates, tubes, and other forms | 171,403 | 187,844 | 885,551 |

*Manufactures.—*At the census of 1877 only about 3 per cent. of the classified population was returned as engaged in manufactur­ing industries. The principal manufacture is that of cotton, and the following table, which shows the position of Spain relatively to the other countries of Europe with reference to this branch of manufacturing industry, will also serve to some extent as an index of the rank belonging to Spain in mechanical industries generally :—

|  |  |  |  |
| --- | --- | --- | --- |
|  | Millions of lb. | 1 Millions of lb. | |
| United Kingdom.. Germany | 1460∙8 | Spain | 100∙3 |
| 336 ∙9 | Holland | 94 ∙8 |
| France | 309∙6 | Belgium | 54·7 |
| Russia | 242·6 | Switzerland | 53·8 |
| Austria-Hungary.. Italy | 176 ∙6 | Sweden | 21 ∙6 |
| 116·0 |  |

The average import per head of population during the same period was as follows:—United Kingdom, 41·7 lb; Holland, 23·6; Switzerland, 18·7; Belgium, 9·9; France, 8·2; Germany, 8·2 ; Spain, 6·0; Austria-Hungary, 4·6; Sweden, 4·6; Italy, 4·0 ; Russia, 2·9. It thus appears that Spain occupies the seventh place in the consumption of raw cotton, both in absolute amount and relatively to population. In the five years 1874-78 the average import of raw cotton into Spain was 79,690,000 lb, so that the increase of the average in the succeeding period of five years amounted to 25·8 per cent. Nevertheless the products of this branch of industry in the country do not yet suffice to meet the wants of the population. There is every year a considerable import of cotton manufactures, while the export of this commodity is too trifling to be included in the list of chief exports. The maritime provinces, being those most favourably situated for the import of coal, and, where necessary, of raw material, are the chief seats of Spanish manufactures, and the cotton industry is principally centred in Catalonia and, above all, in Barcelona and the surround­ing district. This region is indeed the only distinctively manu­facturing portion of Spain, and in it also the manufactures of linen and woollen goods and of lace are mainly carried on. Flax- spinning and the manufacture of linen goods are pursued to a considerable extent in Galicia and Asturias. The silk industry, which is likewise of high importance, but inadequate to meet the home demand for silk fabrics, is chiefly centred in Valencia, next to which come Murcia and Seville. Metal industries are chiefly carried on in the Basque Provinces, where various articles in iron and copper are made. A royal factory for the making of artillery and other weapons of war exists at La Trubia, in Asturias. Toledo is still noted, as it has been from the earliest times, for the excellence of its sword-blades. The manufacture of leather, another Spanish industry of old renown, is still extensively carried on in Catalonia and elsewhere, but the making of *cordwain* has long ceased to be a specialty of Cordova, from which it takes its name. Boots and shoes and other articles in leather form the only considerable ex­port of manufactured goods. Gloves are made in great quantity in Madrid, shoes in the Balearic Islands. The paper industry is very flourishing, especially in Catalonia and Valencia. Esparto is twisted into cords and ropes, and plaited into a variety of other articles, in Murcia and Alicante and elsewhere. The refining of cane-sugar is largely carried on in Barcelona, Malaga, Almeria, and Granada, and

@@@1 A metric ton=1000 kilogrammes=2205 lbs., or 35 lbs. less than a ton avoirdupois.

@@@2 Exclusive of 100,000 tons produced in the state salt works of Torrevieja (Alicante).

@@@3 Of this total 478,000 tons were exported to Holland, 142,000 to Belgium, and 199,000 to the United States.

@@@4 All the blende and one-third of the calamine were exported to Belgium.

@@@5 Chiefly to Portugal.

@@@6 Of this total 158,760 lbs. were exported to Belgium.

@@@7 Chiefly to Cuba.